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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HYEON, HAE M

ART UNIT PAPER NUMBER

2839

DATE MAILED: 12/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,772

Applicant(s)

ZIMMEL, STEVEN C.

Examiner

Hae M Hyeon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - On page 5, line 30, "intermediate ferrule 76" should be -- intermediate hub 76 --.
 - On page 6, line 28, the examiner suggests the applicant to change "FIG. 5A" to -- FIG. 5B -- because optical fiber segments 72A and 72B are not shown in Fig. 5A, but they are shown in Fig. 5B.

Appropriate correction is required.

Claim Objections

2. Claims 6, 9, 26 and 27 are objected to because of the following informalities:
 - Claim 6, line 2, the examiner suggests the applicant to insert -- optical fiber -- in front of "connector."
 - Claim 9, line 10 recites, "~~the~~ first end" and line 11 recites, "~~the~~ second end." Since claim 9 did not define "first and second ends" of the attenuation hub, the examiner suggests the applicant to change "the first end and the second end" to -- a first end -- and -- a second end --.
 - Claim 26, line 4, the examiner suggests the applicant to change "the axial opening" to -- one of the axial openings --
 - Claim 27 recites the structure of the second cable and how it connects with the attenuation hub. Since, claim 27 is only depended on claim 21, the limitations recited in claim 27 do not include the first cable. The cable recited in claim 27 cannot be the second cable without the first cable. It seems that it is appropriate to make claim 27

depended on claim 26, which recites the first cable. Furthermore, if claim 27 is made to depended on claim 26, the examiner suggests the applicant to change claim 27, line 5 reciting "the axial opening" to -- the other axial opening --. Also, in lines 6-7, change "an open end of the adapter" to -- one of the open end of the adapter housing --.

Appropriate correction is required.

Claim Objections - 37 CFR § 1.75(d)

3. The following is a quotation of an appropriate paragraph of 37 CFR 1.75:

(d) The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. (See 1.58(a)).

4. Claim 16 is objected under 37 C.F.R. 1.75(d) because claim 16, line 22 recites, "shoulders" which was not described in the present specification.

While the present specification describes many different ledges, the present specification does not define shoulders. Therefore, it is not clear what are the shoulders.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 28-33 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: a second cable with a second optical fiber and a second connector. If the second cable with the second optical fiber and the second connector is

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not going to be claimed in claims 28-33, the examiner suggests the applicant to delete the word "first" in claim 33.

7. Claims 34-39 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: an axial cavity and the main housing.

Claim 39 recites, "a main housing including an access opening providing access to an axial cavity with a first open end and a second open end." In view of the present specification and the drawings, the examiner understands that the cavity recited in claim 39 is formed within the main housing. However, claim 39 does not recite clear relationship between the main housing and the axial cavity.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

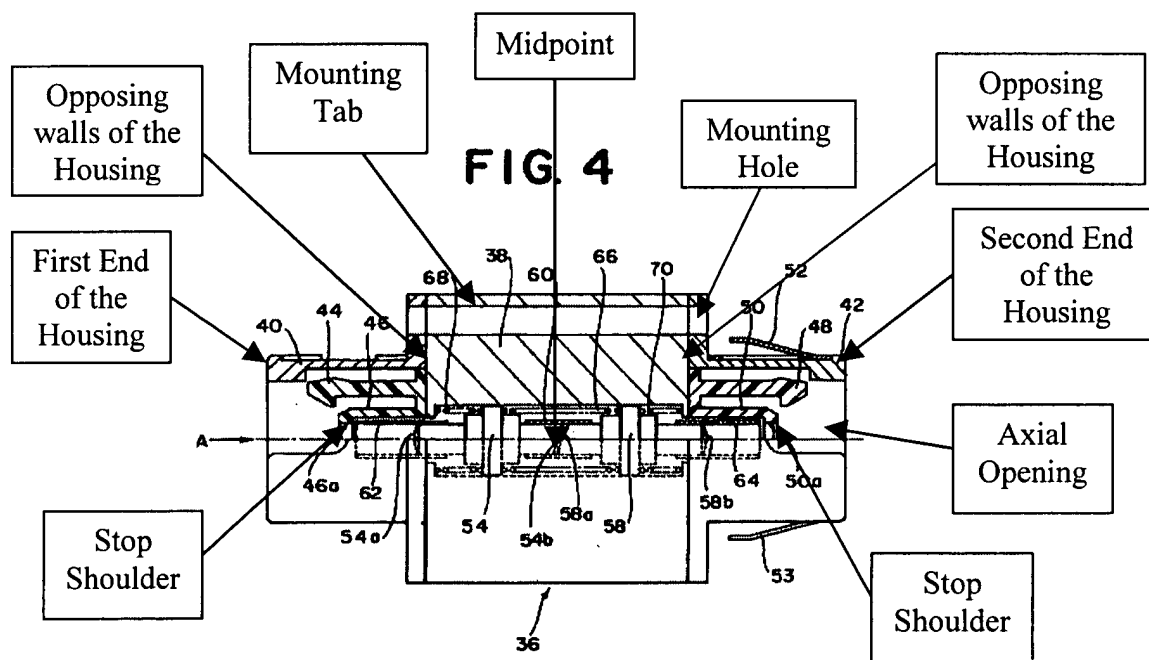
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 4, 8, 9, 12, 14-16, 19, 34, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Oda (5,642,450).

Oda discloses a fiber optic adapter 36 comprising a housing, an attenuation hub 54 and 58, and means 52, 53 for mounting the housing 38, 40, 42. The housing includes a first end and a second end, an inner housing 44, 48 and an axial opening having an axial length and a midpoint. Each of the first end and the second end of the housing 38, 40, 42 receives an optical

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fiber connector 10. The attenuation hub has a first ferrule end 54 with a first contact face 54a, a second ferrule end 58 with a second contact face 58b, a midpoint and an axial opening including an optical fiber 56 defining an optical path from the first end of the hub to the second end of the hub. The inner housing 44, 48 includes a first sleeve 62 and a second sleeve 64 sized and shaped to engage the first 54 and second 58 ends of the attenuation hub, respectively. The attenuation hub is positioned within the inner housing 44, 48. The inner housing 44, 48 further includes first and second stop surfaces spread apart in an axial direction. The attenuation hub and first and second sleeves are positioned between the first and second stop surfaces and are fixed from axial movement such that the attenuation hub and sleeves cannot be removed from the housing 38, 40, 42. The housing 38 includes opposing walls in the axial opening engaged with outer edges of the inner housing 44, 48. The connector 10 includes an optical cable 26 and a ferrule 20 for optically connecting with one end of the attenuation hub 54, 58.



Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 6, 7, are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda in view of Underwood et al (5,737,464).

Claim 6 recites the connector to be SC connector and claim 7 recites that the housing includes mounting tabs on two opposing sides. Although, Oda does not specifically state SC connector and the mounting tabs, the person having ordinary skill in the art will clearly recognize that the connector of Oda is SC connector and the housing 38 of Oda has mounting tabs.

Even if the optical fiber connector 10 of Oda is not SC connector, Underwood discloses an optical fiber connector having the similar structure as the optical fiber connector 10 of Oda. Furthermore, Underwood states that SC, FC and ST[®] optical connectors are well know optical fiber connectors.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use SC connector as taught by Underwood with the adapter taught by Oda because it only deals with modifying the adapter to fit one of the well known connectors over the other well known connector.

12. Claims 21, 24, 26-28, 31, 33, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda in view of Hultermans (5,542,015).

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Claims 21, 28 and 40 recite a bulkhead having an opening sized and shaped to receive the housing of the fiber optic adapter. However, Oda does not describe a bulkhead and the opening for mounting the housing 38, 40, 42 of the fiber optic adapter 36. Although, Oda does not describe the bulkhead with the opening, a person having ordinary skill in the art will recognize that the fiber optic adapter 36 of Oda includes mounting structures for mounting the fiber optic adapter 36 in an opening in the bulkhead (see Figs 4 and 5). To further support the examiner's view, the examiner includes a reference by Hultermans, which discloses a fiber optic adapter 80 having the same mounting means 95 as the mounting means 52, 53 of Oda mounting in an opening of a bulkhead 100(see Fig. 5 of Hultermans).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to mount the adapter taught by Oda in an opening of a bulkhead as taught by Hultermans because it only deals with the intention of using the adapter on the bulkhead when the adapter can be mounted on other structures. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 2d 1647 (1987).

13. Claims 2, 3, 10, 11, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda in view of Satoshi (JP-08122531).

Claims 2, 10 and 17 recite that the optical fiber of the attenuation hub to be continuous segment from the first end of the attenuation hub to the second end of the attenuation hub.

Claims 3, 11 and 18 recite that the optical fiber of the attenuation hub includes two segments fused to each other within the attenuation hub. However, Oda only discloses two separated segments of optical fibers in the attenuation hub.

Satoshi discloses an attenuation hub including two segments of optical fibers 2a and 2b fused at the middle of the attenuation hub to form a continuous optical segment that extends from one end of the attenuation hub to the other end of the attenuation hub. Satoshi teaches that the fused optical fibers 2a and 2b give an optical attenuation effect when an optical transmission loss is brought about between two optical fibers 2a and 2b.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the optical fibers of the attenuation hub taught by Oda such that they would be fused to each other within the attenuation hub to give an optical attenuation effect when an optical transmission loss is brought about between two optical fibers.

14. Claims 5, 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda in view of Fumio (JP-62121405).

Claims 5, 13 and 20 recites that the attenuation hub includes two segments of the optical fibers and a filter is mounted between the two segments of the optical fibers. However, the attenuation hub of Oda does not include a filter between the two segments of the optical fibers.

Fumio discloses an attenuation hub including a filter 4 interposed between two segments of the optical fibers in two ferrules 2a and 3a. Fumio teaches that the attenuation hub having the filter 4 provides an extremely higher precision than those attenuation hubs made by the conventional process.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the attenuation hub taught by Oda such that it would have a filter to interpose between two segments of the optical fibers in the attenuation hub as taught by Fumio to provide an extremely higher precision.

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15. Claims 22, 23, 29, 30, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda and Hultermans as applied to claims 21, 24, 26-28, 31, 33, 40 and 41 above, and further in view of Satoshi (JP-08122531).

Since claims 22, 23, 29, 30, 35, and 36 recite the same limitations as claims 2, 3, 10, 11, 17 and 18, the same rejection applied to claims 2, 3, 10, 11, 17 and 18 in the above paragraph 12 applies here, too.

16. Claims 25, 32 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda and Hultermans as applied to claims 21, 24, 26-28, 31, 33, 40 and 41 above, and further in view of Fumio.

Since claims 25, 32 and 38 recite the same limitation as claims 5, 13 and 20, the same rejection applied to claims 5, 13 and 20 in the above paragraph 13 applies here, too.

17. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oda in view of Beard et al (5,317,663).

Claim 39 recites that the main housing includes an access opening to provide access to an axial cavity and a cover sized and shaped to fit within and close the access opening. However, Oda does not disclose the axial cavity and the cover.

Beard discloses a SC adapter 10 including an access opening 250 formed on one side of a main housing 205 to provide an easy access to an axial cavity formed within the main housing 205 and a cover 300 to fit within and close the access opening 250.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the main housing taught by Oda such that it would have an access opening and a cover as taught by Beard such that the access opening provides an easy access to an inside cavity of the main housing.

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Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 5,113,462 by Clancy et al., US Patent No. 5,633,963 by Rickenbach et al., US Patent No. 5,805,760 by Serafini et al., US Patent No. 5,960,139 by Henning, US Patent No. 6,048,103 by Furukata et al., US Patent No. 6,102,581 by Deveau et al., US Patent No. 6,275,643 B1 by Bandy et al., and US Patent No. 6,461,055 B1 by Zimmer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hae M Hyeon whose telephone number is 703-308-4802. The examiner can normally be reached on Mon.-Fri. (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D Feild can be reached on 703-308-2710. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Hae M Hyeon
Examiner
Art Unit 2839

hnh *hnh*
December 19, 2002

Hae Moon Hyeon